

Some Observations

Communicated by Signior Manfredus Septalius from Milan, concerning Quicksilver found at the roots of Plants, and Shells found upon In-land Mountains.

This *Italian* Virtuoso, famous for his knowledge and curiosity, as well as for his Hospitality to ingenious strangers, did in a late Letter of his to the Publisher, impart the following Particulars.

1. In the Valley of *Lancy*, which runs between the Mountains of *Turin*, grows a Plant like the *Doronicum*, (so also called by the Inhabitants and Botanists;) near the roots whereof you may find pure Quicksilver, running in small grains like Pearls; the juice of which Plant being expressed, and exposed to the Air of a clear night, there will be found as much *Mercury*, as there is lost of Juice. * This may be compared with those Relations, which acquaint us, that in *Moravia*, *Hungary*, *Peru*, and other parts; Mineral Juices concentered are found to tick to the roots of Herbs and Trees, some of those Juices tinging also the Leaves of Vegetables.

2. In a Voyage he made a few years since to *Genna*, when he was to pass some mountains, he met with some Peasants, who digging on the sides of an Hill, had found and gathered very many *Cockle-shells* of divers kinds; which he wondring at, stopped his intended Journey, and went to the very place, where he was satisfied of the truth of the relation, finding great store of different shells, as the *Turbinets*, *Echini*, and some Pearl-shells, whereof one had a fair Pearl in it, which, he saith, he put into his *Repository*.

Observations Made by a Curious and Learned Person, sailing from England, to the Caribe-Islands.

These Observations shall be set down in the Authors own words, as they were obtained from him by Sir R. Moray; viz.

I Took notice at *Deal*, whence I set sail for *Jamaica*, of the great difference in the *rusting* of *Iron*, in such houses, as front the Sea, in comparison of that effect in the Street immediately placed behind

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that other, in which I made this observation. They told me that it rusted more at High-floods, than at Neap-tides; the height of the *Beach* hindring the *Saline* exhalations. This remark put me in mind of the vanity of the Argument of M. *Lignons* and others, *viz.* That the Air of the *West-Indies* was hot and moist, because of the *Rusting of Iron*; whereas it indeed arises from some other principle in the Air; for at the point of *Cagua*, where it scarce raineth 40 showers in a year, Iron rusts as much or more than any where; yet are there other parts of the *Island*, in which of 9 months not one passes without great Rains: besides, in *Jamaica* it rusts least in rainy Weather.

The Streams of the Sea are found of such a nature, that our sweet-meats rotted; Sugar of Roses, and other Lozenges grew moist; notwithstanding that there was no reason to attribute it to any rainy weather. And those Pies and Gammons of Bacon, which had kept well before, after they had been once exposed to the open Air, decayed more in a day or two, than in six weeks before.

On the point *Cagua*, the Iron Guns at the Fort were so corroded, that some were near become useless, being perforated almost like Honey-Combs: And I could at any time with 2 or 3 strokes of a Hammer break off some pounds of Rusty Iron, which served for prepared *Steel*, and in *Salves*. But the Guns which lay in the Salt-water, were not much endamaged by Rust; as we found, upon taking up of some.

Many things receive damage by the Air: Not only *Iron* rusts, but even *Linnen* rots, and *Silks* once exposed to the Air do rot without losing their colour. If a *Lancet* be once exposed to the air, it will rust, though you presently put it up again; but if it be never exposed to the Air, it will hardly rust.

At *Deal* a certain Ale-seller will warrant, that the Ale, as he orders it, shall be carried good to the *West* or *East-Indies*. His way to prepare it is this, as he told me himself, he twice mashes it with *Fresh-Malt*, and twice boils it well; yet all this kept it not from sowing; as I observ'd during my stay there. We bought of it to carry to *Jamaica*, and then he directed us thus. To every Rundlet of 5 *Gallens*, after it is placed in the ship, not to be stirred any more, put in two new-laid Eggs whole, and let them lie in it; he said that in a fortnight or little more, the whole Egg-shells would be dissolved, and the Eggs become like Wind-Eggs, inclosed only in a thin skin

skin ; after this, the whole *White* would be prey'd on, but the *Yolk* would not be touch'd or corrupted. By this means we did preserve the Ale to *Jamaica*, and it was much better, than at *Deſt*. I was told ſince by ſome others that the Experiment is uſual with them, to keep Ale in *England* a quarter of a year : And if Eggs be thus put into *March-beer*, they preſerve it from growing ever harſh. They muſt be put in, after the Liquor has done working.

Concerning the *Thames-water*, it is not only obſervable, that in eight months time it acquires a Spirituous quality, ſo as to burn like Spirit of Wine ; and ſome *East-India* ſhips, I am inform'd, have run the hazard of firing by holding a Candle near the Bung-hole at the firſt opening of the Caſk ;) but alſo that the ſtinking of it is no corruption, nor perhaps unwholeſome ; for we drank it all the way, ſo as to hold our Noſes, yet had no ſickneſs, but we had proportion of *Brandy* each week, which perhaps might correct it. If you take off the Bung from any Caſk that ſtinks, and let the Air come to it, it will in 24 hours become ſweet again. And if you take a Broomſtick, and ſtir it about well, it will become ſweet in 4 or 5 hours caſting a black Lee to the bottom, which remixes with it, and ſo occaſions a third or fourth fermentation, and ſtench ; after which it ſtinks no more. But, though *Thames-water* upon ſtench do not putrifie, yet other Waters (as far as hath been hitherto obſerved) do become irrecoverable upon ſtinking, and dangerous to drink.

I obſerv'd at Sea, that though *Glauber* ſay, the water, as it grows *Salter*, becomes *Greener*, yet that is falſe. For, after we were out of the Narrow, the Sea grew *darkiſh*, and after perfect *Azure*, yet was it much more Salt, the farther we went : as I tried by a *Water-poſe* of Glaſs, with Quick-ſilver at the one end, it roſe about half an inch above the Sea-water in the *Downs* ; and at 24 degrees more, 2 inches. But after that, I never obſerved any difference unto *Jamaica*, the Sea being probably ſo impregnated with Salt, as not to imbibe more ; which croſſes another obſervation, that the nearer the *Tropiques* and the *Line*, the *Salter* the Sea.

As to the *Colour* of the Sea, I conceive there is as great variety in it and its ſteams, as in Grounds at Land ; which may occaſion the ſickneſs in ſome places more than in others : For the Sea ſmells differently in the *Narrow* and *Main*. And as to colour, it is of a Sea-green (and more ſickly) in the *Downs*, than at *Terbay*, and on *Plymouth* coaſt more, than paſt the *Lands-end* ; and in the *Bay of Biſcay*, than
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in the *Long-reach*. Something perhaps may be imputed to the difference of the waves, which are short, and make a Copling Sea in the *Bay of Biscay* (yet we came not within 80 Leagues of *Cape Finis Terra* :) in the *Long-reach* it is a long rolling wave, but never breaks. About *Florida*, *Virginia*, and *New-England* it is a great rolling wave, but breaks. And as the Sea coloureth from *green* to *darkish*, and so to *blue* ; so in our return it colour'd from *blue* to *dark*, and so to *green*. When we were in the *Latitude* of *Barbadoes*, and had sailed so for two daies, and apprehended our selves to be within 70 or 80 Leagues, I observed the Sea was black and thick, not transparently blue, as before, and the foam against the Ship-sides was turbid, and of another consistence, than before. I had never seen the like before, yet was I willing to think the Sun not high enough, to give the water its due colour. I attended the Suns progress, but behold, it turn'd *Green*; whereupon I asked the Master, who told me, we were within 60 leagues of *Barbadoes*, and that the Sea was there soundable, whereas before it was not so. But at *Barbadoes* in the anchoring places, it was *Blue* ; and as we row'd ashore, in the shallow it was *Whitish* : And so at *Jamaica* near the shore it is transparently *White*, but within three yards more, transparently *Blue*.

As to the *Burning of the Sea*, I could never observe so great a Light, as to perceive Filhes in the Sea of the Stern, though I frequently looked, as well as *M. Ligon* ; yet was the light great, and at sometimes more than other. I suppose several subject Earths, Currents, and Winds do vary it. I observ'd, it burned more at *Deal* the night before we set sail, than ever in the Voyage : all the water ran off our Oars, almost like liquid fire ; the wind was then *South-East*, and the Sea-men told me, that at *East* and *South*-winds it burned most. And it did never burn so much during our stay at *Deal*, as then, the wind having been alwaies *Westerly*. But in the *Harbour* of *Jamaica* I observ'd, that it did not burn equally there. As you pass the *Current* (which thwarts the middle of the *Harbour* with a motion, different from the water on both sides) the water scarce seems *white* at the stroak of an *Oar*.

I shall not trouble you with an account, how two contrary Winds poise each other, and make a *Calm* in the midst, ships at a distance sailing with contrary gales at the same time.

It is observable, that in the *Indies* such places, as have any high Mountains, have also every night a Wind, that blows from the Land,

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Maugre the *Levantine* Wind, which blows at Sea (but with a slacker gale all night; which seems to shew it depends not only on the motion of the Earth, but Sun.) Whence this Wind should come, may be considered; there is none at *Barbadoes* or *Saona*, but at all the other Islands. And in *Jamaica* every night it blows off the Island every way at once, so that no ship can any where come in by night, nor go out but early in the morning, before the *Sea-brise* come in. I have often thought on it and could imagine no other reason, but that those Exhalations, which the Sun hath raised in the day, make haste (after his strength no longer supports them) to those Mountains by a motion of *Similar Attraction*, * and there gather in Clouds, and break thence by their own force and weight, and occasion a wind every way. For, as the Sun declines, the Clouds gather, and shape according to the Mountains, so that old Seamen will tell you each Island in the afternoon towards Evening by the shape of the Cloud over it. And this *Attraction* appears further, not only from the Rain that gathers on the Tree in the Island of *Ferro*, spoken of by *J. Hawkins* in his Observations, and *Is. Vossius* upon *Pomponius Mela*, as also *Magnenus de Manna*; but also from the Rains in the *Indies*, there being certain Trees which attract the Rain, though Observations have not been made of the *kinds*; so as that if you destroy the woods, you abate or destroy the Rains. So *Barbadoes* hath not now half the Rains, it had, when more wooded. In *Jamaica* likewise at *Guanaboa* they have diminished the Rains as they extended their Plantations. But (to return to *Jamaica*) that this night-wind depends much upon the Mountain, appears by this, that its force extends to an equal distance from the Mountain, so that at *Portmorant*, which is the East-most part of the Island, there is little of Land-brise, because the Mountain is remote from thence, and the *brise* spends its force along the land thither. I shall further illustrate this kind of Attraction. In the harbor of *Jamaica* there grow many Rocks, shap'd like Bucks and Stags horns: there grow also several Sea-plants, whose roots are stony. Of these stone-trees (if I may term them so) some are insipid, but others perfectly Nitrous. Upon those other Plants with petrified roots there gathers a Lime-stone, which fixes not upon other Sea-fans, growing by them. It is observable also, that a *Monchinel-Apple*, falling into the

* Possibly it may be more plain, to say, That those Exhalations, condensed by the cool of the night and impelled downwards, fall by their weight, and then first of all meeting with the higher parts of the Earth, must needs gather and settle about the same, in clouds.

Sea, and lying in the water, will contract a *Lanugo* of Salt-peter : which is confirmed by the Author of the History of the *Antilles*. To conclude this particular, the Captain of our Ship ventured to give me a reason for these winds, which I will not conceal from you, since it may put you upon an Experiment, which he said he had often made : *viz.* That the Sun did heat the Air, and exhale the Vapours, which after did settle on those hills, and as they grew cold, took up more room than before, and so made a wind by their pressure ; as water, put hot into a Cask and closed, would, *be said*, as it cooled, break the Cask.

It is commonly affirmed, That the Seasons of the Year betwixt the *Tropicks* are divided by the Rains and Fair weather, and six Months are attributed to each Season, But this observation holds not generally true : For at the *Point* in *Jamaica* scarce fall (as was, on another occasion, hinted above) forty showers in a year, beginning in *August* to *October* inclusively. From the *Point* you may look towards *Port-marrant*, and so along to *Ligonee*, six miles from the *Point*, and you'll scarce see, for eight or nine months, beginning from *April*, an afternoon in which it rains not. At the *Spanish Town* it rains but three Months in the Year, and then not much. And at the same time, it rains at *Melvis* ; it rains not at the *Barbadoes*. And at *Cignateo* (otherwise called *Eleniberia*) in the Gulph of *Bahama* it rains not sometimes in two or three years ; so that that Island hath been twice deserted for want of rain to plant in.

At the *Point* of *Jamaica*, where-ever you dig five or six foot, water will appear, which ebbs and flows as the Tide. It is not salt but brackish, unwholsome for men, but wholsome for Hogs. At the *Caymans* there is no water, but what is brackish also ; yet is that wholsome for men, insomuch that many are recovered there, by feeding on Tortoises, and yet drink no other water.

The *Bloud* of *Tortoises* is colder than any water, I ever felt there ; yet is the beating of their Heart as vigorous, as that of any Animal (as far as I have observed.) and their Arteries are as firm as any Creatures I know : Which seems to shew, It is not heat that hardens the coats of the Arteries, or gives motion to the Heart. Their Lungs lie in their belly below the Diaphragm, extending to the end of their Shell. Their Spleen is Triangular, and of a firm flesh (no Parenchyma) and floridly red. Their Liver is of a dark green, inclining to black, and Parenchymatous. In the *Oesophagus* are a sort of Teeth, with which they chew the grass, they eat in the Meadows, which there grow at the bottom of the Sea,

All the *Tortoises* from the *Caribes* to the *Bay of Mexico* and *Honduras*, repair in Summer to the *Cayman Islands*, to lay their Eggs and to hatch there. They coot for fourteen daies together, then lay in one night some three hundred Eggs, with white and yolk, but no shells: then they coot again, and lay in the sand, and so thrice. Then the Male is reduced to a kind of gelly within, and blind, and is so carried home by the Female. Their fat is green, but not offensive to the stomach, though you eat it as broth, stew'd. Your Urine looks of a yellowish green, and oily, after eating it.

There is no manner of Earth, but Sand, at the *Point*; yet I have eaten admirable *Melons*, Musk and Water-Melons, that have grown there. A great many trees also grow there, especially *Mangraves* and *Prickle-pears*. In other parts it is ordinary to ride through woods, that are full of very large Timber, and yet have nothing of Earth, only firm Rock, to grow in.

In some ground that is full of Salt peter, your *Tobacco*, that grows wild, flasheth as it is smoked.

The fruit of Trees there of the same kind ripen not at one time: There is a Hedge of Plum-trees of two miles long, as you go to the *Spanish Town*; on it I have many times remarked some Trees in Flower, others with Ripe, others with Green fruit, and others to have done bearing, at the same time. The like I have observed in other Trees. *Jasmins* I have seen to blow before their leaves, and also after their leaves are fallen again.

The *Sower-sop*, a pleasant fruit there, hath a flower with three leaves; when these open, they give so great a crack, that I have more than once run from under the Tree, thinking it all to be tumbling down.

There is a Bird, called a *Pellican*, but a kind of *Cormorant*, that is of taste Fishy, but if it lie buried in the ground but two hours, it will lose that taste, as I have been told for certain.

I tried some *Analysis* of bodies by letting *Ants* eat them; and I found that they would eat *Brown Sugar White*, and at last reduce it to an *Inspid* powder. So they reduced a pound of *Salet-oil* to 2 drams of powder.

At our first coming there, we sweat continually in great drops for 3 quarters of a year, and then it ceaseth: During that space I could not perceive my self or others more dry, more costive, or to make less urine, than in *England*. Neither does all that sweat make us faintish. If one be dry, it is a thirst generally arising from the heat of the Lungs, and affecting the Mouth, which is best cooled by a little *Brandy*.

Most Creatures drink little or nothing there, as Hogs ; nay, Horses in *Guanaboa* never drink ; nor Cows in some places of the Island for six *months* ; Goats drink but once perhaps in a week. Parrots never drink, nor Parroquets ; nor Civet-Cats but once a month.

The hottest time of the day to us, is Eight in the Morning, when there is no *Brise*. I set a weather-glass in the window, to observe the weather, and I found it not to rise considerably at that time, but by two of the clock it rose two inches.

Venice-Treacle did so dry in a Gally-pot, as to be friable ; and then it produced a Fly, called a *Weevil*, and a sort of white-worm. So did the *Pilula de Tribus* produce a *Weevil*.

I shall conclude with an Observation of a strange Quality of a piece of Land : There is in the midst of the Island a Plain, called *Magotti Savanna*, in which whensoever it rains (and the rain passes along the Island before it falls there) the rain, as it settles upon the seams of any garment, turns in half an hour to Magots ; yet is that *plain* healthful to dwell in ; and an hundred, that have seen the thing, assured me of it.

Infinite might the observations be, if I had alwaies enjoyed my health, for the speculative Philosophers ; almost every thing there being new, and Nature being luxuriant in her Productions in those parts : But I shall not trouble you with imperfect Memorials, &c.

So far this curious observer ; whose laudable Example may both quicken and direct other Travellers in the Particulars, to be taken notice of in their Voyages.

Extract of a Letter, written by Mr. Sam. Colepreß to the Publisher, containing an Account of some Magnetical Experiments ; as also of an excellent Liquor made of Cyder-Apples and Mulberries.

Presuming, what e're tends to the farther discovery of the *Magnetick* vertue, will not be unwelcome to you, encouraged by a hint, given in pag. 423. of your *Phil. Transact.* I shall not scruple to relate to you two or three Experiments of mine own, performed in the presence of Sir *William Strode*.

1. I took a Loadstone unpolish'd, which attracted but meanly ; and I heated a Lath-nail glowing hot, nimbly applying the North-pole of the said Magnet to it, which quickly took it up, and held it suspended a great while, till I put down both the Magnet and Nail.

2. I took the same stone, and cast it into the Fire, letting it remain there, till it was thorow hot, altering its colour from black to red, and
being